



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ENVIRONMENTAL SCIENCE CENTER

701 MAPES ROAD

FORT MEADE, MD 20755-5350

OCT 2000  
2000-08-31



SDMS DocID

2241278

DATE : August 31, 2000

SUBJECT: Region III Data OA Review

FROM : Fredrick Foreman  
Region III ESAT RPO (3ES20)

TO : Michael Towle  
Regional Program Manager (3HS31)

Attached is the inorganic data validation report for the 12<sup>th</sup> Street Landfill site (Case#: 28339, SDG#: MC01A0) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III ESD.

If you have any questions regarding this review, please call me at (410) 305-2629.

Attachment

cc: (b) (4) (Tetra Tech, EMI)

WA File: 0300402 TDF# 0829

OFFICE OF ANALYTICAL SERVICES AND QUALITY ASSURANCE

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**DATE:** August 25, 2000

**SUBJECT:** Inorganic Data Validation (Level IM1)  
Site: 12<sup>th</sup> Street Landfill  
Case: 28339 SDG: MC01A0

**FROM:** (b) (4) *dwc* (b) (4)  
Senior Data Reviewer Senior Oversight Chemist

**TO:** Fredrick Foreman  
ESAT Regional Project Officer

### OVERVIEW

Case 28339, Sample Delivery Group (SDG) MC01A0, from the 12<sup>th</sup> Street Landfill site consisted of seven (7) aqueous and five (5) soil samples analyzed for total metals in addition to seven (7) filtrate samples analyzed for dissolved metals. All samples were analyzed by Datachem Laboratories (DATAAC). The sample set included one (1) field blank and one (1) filtrate field blank. Samples were analyzed in accordance with Contract Laboratory Program (CLP) Statement of Work (SOW) ILM04.1 through Routine Analytical Services (RAS) program.

Samples listed below had analytes that exceeded Ten Day Chemical Health Advisory Limits as noted. The Regional Project Manager (RPM) was notified by facsimile.

<u>Analyte</u>	<u>Limit (ug/L)</u>	<u>Sample Number</u>	<u>Station Location</u>	<u>Conc.(u/L)</u>
lead	20	MC01A4	B-SW-03	20.6

  

<u>Analyte</u>	<u>Limit (mg/Kg)</u>	<u>Sample Number</u>	<u>Station Location</u>	<u>Conc.(mg/Kg)</u>
lead	500	MC01B4	T1TP04	4020
		MC01B5	TP-08	1200
		MC01B6	TP-09	991

### SUMMARY

All samples were successfully analyzed for all Target Analyte List (TAL) parameters with the exception of cobalt (Co) and selenium (Se) in the soil matrix. Areas of concern with respect to data usability are listed below.

Validation of data was performed according to Innovative Approaches for Validation of Inorganic Data, Level IM1, which includes review of all Forms but excludes review of raw data.

Positive results detected in the aqueous field blank were utilized to assess blank contamination in the aqueous and soil matracies. Positive results detected in the filtrate field blank were utilized to assess blank contamination only in the filtrate matrix.

Data in this case have been impacted by outliers present in laboratory and field blanks, sample holding time, matrix spike, laboratory duplicate, ICP Serial Dilution and Contract Required Detection Limit (CRDL) standard analyses. Details of these outliers are discussed under "Major and Minor Problems" and qualified analytical results for all samples are reported on Data Summary Forms (DSFs).

### **MAJOR PROBLEM**

Matrix spike recoveries of cobalt (Co) and selenium (Se) were extremely low (<30%) in the soil matrix. Reported results for these analytes may be biased extremely low and have been qualified "L" on the DSFs unless superseded by "J". Quantitation limits for these analytes in this matrix have been rejected and qualified "R" on the DSFs.

### **MINOR PROBLEMS**

Continuing Calibration (CCB), Preparation (PB) and/or Field (FB) Blanks had reported results greater than Instrument Detection Limits (IDLs) for analytes listed below. Reported results in affected samples which are less than or equal to five times ( $\leq 5X$ ) blank concentrations may be biased high and have been qualified "B" on DSFs.

<u>Matrix</u>	<u>Blank</u>	<u>Affected Analytes</u>
Total	CCB	beryllium (Be), lead (Pb)
	PB	barium (Ba)
	FB	Pb, thallium (Tl), zinc (Zn)
Filtrate	CCB	Be, sodium (Na), Tl
	PB	Ba, silver (Ag)
	FB	copper (Cu), iron (Fe)
Soil	FB	Be, Na, Tl

Recoveries of CRDL standards were low for Ag in the soil matrix as well as for nickel (Ni) in the total metals and filtrate matracies. Low recoveries may indicate negative bias effects for results detected near detection limits. Quantitation limits for these analytes in affected samples may be biased low and have been qualified "UL" on the DSFs.

Continuing calibration and/or preparation blanks had negative values greater than absolute values of IDLs for analytes in the matracies listed below. Reported results which are less than two times (<2X) the absolute value of the blank and quantitation limits for these analytes may be biased low and have been qualified "L" and "UL", respectively, on DSFs unless superseded by "R".

<u>Matrix</u>	<u>Analytes</u>
Total	Co, Mn
Filtrate	Co, vanadium (V)
Soil	antimony (Sb), Co

Recoveries of CRDL standards were high regarding analytes listed below. High recoveries may indicate positive biases relative to results detected near detection limits due to an unstable baseline. Reported results for these analytes in affected samples which are less than 2XCRDL may be biased high and have been qualified "K" on DSFs unless superseded by "J" or "B".

<u>Matrix</u>	<u>Analytes</u>
Total	arsenic (As), Cu, Pb, Tl
Filtrate	As, Be, Cr, Cu, Ag, Tl, Zn
Soil	As

Recoveries of CRDL standards were mixed for Ni in the soil matrix and for cadmium (Cd) in the total and filtrate matracies, producing opposing bias effects for results detected near detection limits. Reported results less than 2XCRDL, as well as quantitation limits for these analytes in affected samples, are estimated and have been qualified "J" and "UJ", respectively, on DSFs.

Matrix spike recoveries of Cr and Mn were extremely low (<30%) in the soil matrix. Reported results for these analytes may be biased extremely low and have been qualified "L" on the DSFs unless superseded by "J".

Matrix spike recoveries were low (<75%) for Ag and Tl in the soil matrix. Reported results and quantitation limits for these analytes in this matrix may be biased low and have been qualified "L" and "UL", respectively, on DSFs unless superseded by "B".

The matrix spike recovery was high for mercury (Hg) in the soil matrix. Reported results for this analyte may be biased high and have been qualified "K" on the DSF.

Relative Percent Differences (RPDs) for the laboratory duplicate analysis in the soil matrix were outside control limits (35% RPD,  $\pm 2\text{CRDL}$ ) for Cr and Cu. Reported results for these analytes are estimated and have been qualified "J" on the DSFs.

The Percent Difference (%D) for the ICP serial dilution analysis for the total and filtrate matracies was outside control limits for Mn. Reported results regarding this analyte are estimated and have been qualified "J" on the DSFs.

Matrix spike recovery was extremely low while CRDL recoveries were high for Se in the soil matrix, producing opposing bias effects for results detected near detection limits. Reported results for this analyte in this matrix which are less than 2XCRDL are estimated and have been qualified "J" on the DSFs.

Sample MC01B4, sampled June 30, 2000, was analyzed for mercury August 3, 2000. The technical holding time of twenty-eight (28) days for mercury (Hg) was exceeded for sample MC01B4 by six (6) days. The quantitation limit for this analyte in this sample may be biased low and has been qualified "UL" on the DSF.

**NOTES**

The samples were prepared for ICP analysis utilizing microwave digestion. This digestion procedure introduces a dilution factor of 1.11 for analytes analyzed by ICP; hence, CRDLs for ICP analytes are elevated by this factor in these samples.

The laboratory performed only QC analyses relative to ICP Serial Dilution for the soil and total metals matracies. The outlier found in the total metals ICP serial analysis was applied to the filtrate matrix when evaluating the data. Form Is in both the total metals and filtrate matracies were annotated by the laboratory with outliers relative to this outlier.

The laboratory duplicate results for Ba and Co in the soil matrix were outside the contractual control limit of 20% RPD. However, the results for these analytes were within the control limit of 35% RPD utilized for data validation of soil samples in Region 3. No data were qualified based on these laboratory duplicate imprecisions.

Several samples, listed below, were reanalyzed at dilutions because detected concentrations of analytes listed exceeded linear calibration range in initial analyses. Positive results for these analyte were reported from dilutions by the reviewer and annotated with a "+" or "++" on the DSFs.

<u>Sample Number</u>	<u>Analyte</u>	<u>Dilution Factor</u>
MC01B4	Pb	2.0
MC01B5	Se	2.0
	Fe	5.0
MC01B6	Fe	5.0

A sampling date of 7/7/2000 was listed on the Chain of Custody (COC) Record for sample MC01B6. However, the sample tag for this sample lists a sampling date of 6/30/2000 for this sample. The sampling date of 6/30/2000 listed on the sample tag was corrected to read 7/7/2000 by Memo-to-File.

*Original*

Page 5 of 5

Data for Case 28339, SDG MC01A0, were reviewed in accordance with EPA Region 3 Innovative Approaches (Level IM1) for Validation of Inorganic Data, June 1995.

**ATTACHMENTS**

**APPENDIX A GLOSSARY OF DATA QUALIFIER CODES (INORGANIC)**

**APPENDIX B DATA SUMMARY FORMS**

**APPENDIX C RESULTS REPORTED BY LABORATORY (FORM Is)**

**APPENDIX D SUPPORT DOCUMENTATION**

DCN: 28339IM1.wpd

**APPENDIX A**

**Glossary of Qualifier Codes**

Original

## GLOSSARY OF DATA QUALIFIER CODES (INORGANIC)

### CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of analytes):

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

### CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte Present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low.  
Actual value is expected to be higher.

[ ] = Analyte present. As values approach the IDL the quantitation may not be accurate.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

### OTHER CODES

Q = No analytical result.

*Original*

## **APPENDIX B**

### **Data Summary Forms**

## DATA SUMMARY FORM: INORGANIC

Page 1 of 4

Case #: 28339

Site :

Lab. :

SDG : MC01A0  
12TH STREET LANDFILL  
DATACNumber of Soil Samples : 5  
Number of Water Samples : 14

Sample Number :	MC01B4 T1TP04	MC01B5 TP-08	MC01B6 TP-09	MC01B7 TP-WP-07	MC01B9 TPG07						
Sampling Location :	Soil mg/Kg	Soil mg/Kg	Soil mg/Kg	Soil mg/Kg	Soil mg/Kg						
Field QC:											
Matrix :											
Units :											
Date Sampled :	06/30/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000						
Time Sampled :	12:00	12:05	12:00	12:15	12:20						
%Solids :	67.7	73.9	79.3	47.7	61.2						
Dilution Factor :	1.11/2.22	1.11/2.22/5.55	1.11/5.55	1.11	1.11						
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	40	57300		2200		3530		90300		20500	
ANTIMONY	12			60.9		33.3		UL		UL	
ARSENIC	2	11.6		328		394		10.0		[2.3]	K
BARIUM	40	917		327		186		205		75.1	
BERYLLIUM	1	[0.57]	B	[0.20]	B	[0.26]	B	[0.63]	B	[0.14]	B
CADMIUM	1	42.3		14.1		10.6		4.4		36.8	
CALCIUM	1000	48700		3280		9450		71400		68100	
CHROMIUM	2	217	J	152	J	95.5	J	49.3	J	619	J
COBALT	10	[10.7]	L	406	L	378	L	[11.3]	L	R	
COPPER	5	362	J	1510	J	1050	J	262	J	26.7	J
IRON	20	29600		321000++		236000++		22100		2880	
*LEAD	0.6	4020+		1200		991		72.2		21.7	
MAGNESIUM	1000	4700		[1080]		1480		11400		8350	
MANGANESE	3	274	L	229	L	267	L	223	L	217	L
MERCURY	0.1		UL	0.37	K	0.27	K				
NICKEL	8	45.6		28.5		24.8		54.6		[12.3]	J
POTASSIUM	1000	[990]				[313]		[411]		[652]	
SELENIUM	1	[0.83]	J	[2.4]+	J	1.8	J	R		R	
SILVER	2		UL	10.4	L	5.8	L	UL		UL	
SODIUM	1000	[1040]		[120]	B	[166]		[607]		[279]	
THALLIUM	2		UL	9.6	L	9.3	L	[1.9]	B	[0.91]	B
VANADIUM	10	76.4		[13.1]		12.8		71.4		35.8	
ZINC	4	15500		5320		3400		6360		4560	

CRDL = Contract Required Detection Limit

\*Action Level Exists

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+ = Results reported from 2X dilution.

++ = Results reported from 5X dilution.

## DATA SUMMARY FORM: INORGANIC

Page 2 of 4

Case #: 28339

Site :

Lab. :

SDG : MC01A0

12TH STREET LANDFILL

DATAC

Sample Number :	MC01A0 BR-SW-01	MC01A1 P1	MC01A2 B-SW-01	MC01A3 B-SW-02	MC01A4 B-SW-03						
Matrix :	Water	Water	Water	Water	Water						
Units :	ug/L	ug/L	ug/L	ug/L	ug/L						
Date Sampled :	07/26/2000	07/26/2000	07/26/2000	07/26/2000	07/26/2000						
Time Sampled :	09:00	09:05	08:43	08:48	08:51						
Dilution Factor :	1.11	1.11	1.11	1.11	1.11						
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	342		467		532		399		372	
ANTIMONY	60										
*ARSENIC	10			[5.4]	K						
BARIUM	200	[48.8]		[41.3]		[51.8]		[46.6]		[48.0]	
BERYLLIUM	5					[1.6]	B	[2.5]	B	[2.7]	B
*CADMIUM	5		UJ		UJ	[4.5]	J		UJ		UJ
CALCIUM	5000	23000		114000		23200		23000		23100	
*CHROMIUM	10			[5.4]						[4.7]	
COBALT	50		UL		UL				UL		UL
COPPER	25	[9.4]	K	[18.8]	K	[11.0]	K	[7.8]	K	[9.4]	
IRON	100	463		656		654		524		499	
*LEAD	3	[2.4]	B	13.6		8.0	B	9.8	B	20.6	
MAGNESIUM	5000	9390		16300		9700		9280		9380	
MANGANESE	15	66.7	J	49.7	J	72.3	J	71.0	J	72.3	J
MERCURY	0.2										
*NICKEL	40		UL		UL				UL		UL
POTASSIUM	5000	[3390]		6340		[3770]		[3110]		[3140]	
SELENIUM	5										
SILVER	10										
SODIUM	5000	23400		22000		24300		21300		22100	
THALLIUM	10			[3.3]	B			[3.3]	B		[3.2]
VANADIUM	50			[4.3]							
ZINC	20			33.3	B	27.9	B	[11.7]	B	[16.1]	B

CRDL = Contract Required Detection Limit

\*Action Level Exists

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## DATA SUMMARY FORM: INORGANIC

Page 3 of 4

Case #: 28339

SDG : MC01A0  
Site : 12TH STREET LANDFILL  
Lab. : DATA

Sample Number :	MC01A5	MC01A6	MC01A7	MC01A8	MC01A9						
Sampling Location :	B-SW-04	BR-SW-01	P1	B-SW-01	B-SW-02						
Field QC:		Filtrate of MC01A0	Filtrate of MC01A1	Filtrate of MC01A2	Filtrate of MC01A3						
Matrix :	Water	Water	Water	Water	Water						
Units :	ug/L	ug/L	ug/L	ug/L	ug/L						
Date Sampled :	07/26/2000	07/26/2000	07/26/2000	07/26/2000	07/26/2000						
Time Sampled :	08:55	09:00	09:05	08:43	08:48						
Dilution Factor :	1.11	1.11	1.11	1.11	1.11						
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	348				[3.9]	K				
ANTIMONY	60										
*ARSENIC	10										
BARIUM	200	[51.4]	B	[45.5]	B	[39.7]	B	[45.3]	B	[42.4]	
BERYLLIUM	5	[2.5]	UJ	[2.6]	UJ	[2.7]	UJ	[2.7]	UJ	[2.5]	B
*CADMIUM	5										
CALCIUM	5000	22900		23000		117000		24000		23000	
*CHROMIUM	10										
COBALT	50										
COPPER	25										
IRON	100	469		[22.9]	B	[11.0]	B	[7.8]	B	[9.4]	B
*LEAD	3	11.2				[24.1]	B	[26.7]	B	[22.9]	B
MAGNESIUM	5000	9370	J	9390	J	16500	J	9550	J	9210	
MANGANESE	15	68.0		20.4	J	42.5	J	25.9	J	33.6	J
MERCURY	0.2										
*NICKEL	40										
POTASSIUM	5000	[3290]	UL	[2830]	UL	7150	UL	[3230]	UL	[2390]	
SELENIUM	5										
SILVER	10									[6.1]	B
SODIUM	5000	24700	B	24000	B	22600	B	24900	B	21300	
THALLIUM	10	[3.5]		[4.7]	B	[2.7]	B	[3.4]	B	[3.1]	B
VANADIUM	50	[4.3]								[4.4]	L
ZINC	20	27.9	B			[9.8]		[18.4]			

CRDL = Contract Required Detection Limit

\*Action Level Exists

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## DATA SUMMARY FORM: INORGANIC

Page 4 of 4

Case #: 28339

Site :

12TH STREET LANDFILL

Lab. : DATAAC

Sample Number :	MC01B0	MC01B1	MC01B2	MC01B3							
Sampling Location :	B-SW-03	B-SW-04	FB-01	FB-01							
Field QC:	Filtrate of MC01A4	Filtrate of MC01A5	Field Blank	Filtrate of MC01B2							
Matrix :	Water	Water	Water	Water							
Units :	ug/L	ug/L	ug/L	ug/L							
Date Sampled :	07/26/2000	07/26/2000	07/26/2000	07/26/2000							
Time Sampled :	08:51	08:55	09:30	09:30							
Dilution Factor :	1.11	1.11	1.11	1.11							
ANALYTE	CRDL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200										
ANTIMONY	60										
*ARSENIC	10										
BARIUM	200	[43.3]	B	[45.0]	B	[0.59]	B	[0.47]	B		
BERYLLIUM	5	[2.6]		[2.6]		[2.5]	B	[2.3]	B		
*CADMIUM	5						UJ				
CALCIUM	5000	23200		22500		[44.6]		[65.8]			
*CHROMIUM	10							[10.1]	K		
COBALT	50						UL				
COPPER	25			[7.8]	B			[11.0]	K		
IRON	100	[41.9]	B	[25.4]	B			[27.9]			
*LEAD	3					[2.1]	B				
MAGNESIUM	5000	9270		9150							
MANGANESE	15	31.4	J	20.8	J		UL				
MERCURY	0.2						UL				
*NICKEL	40						UL				
POTASSIUM	5000	[3320]		[3430]							
SELENIUM	5										
SILVER	10										
SODIUM	5000	22000		24400		[110]		[150]	B		
THALLIUM	10	[5.2]	B	[4.1]	B	[4.5]	K				
VANADIUM	50		UL		UL				UL		
ZINC	20	[11.9]	K	[14.1]	K	[19.5]					

CRDL = Contract Required Detection Limit

\*Action Level Exists

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ORIGINAL

## **APPENDIX C**

### **Form Is**

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

MC01B4

Lab Code: DATAAC

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): SOIL

Lab Sample ID: 00C01420

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 67.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	57300	-		P
7440-36-0	Antimony	15.4	U		P
7440-38-2	Arsenic	11.6	-		P
7440-39-3	Barium	917	-	*	P
7440-41-7	Beryllium	0.57	B		P
7440-43-9	Cadmium	42.3	-		P
7440-70-2	Calcium	48700	-		P
7440-47-3	Chromium	217		N*	P
7440-48-4	Cobalt	10.7	B	N*	P
7440-50-8	Copper	362	-	*	P
7439-89-6	Iron	29600	-		P
7439-92-1	Lead	4020	-		P
7439-95-4	Magnesium	4700	-		P
7439-96-5	Manganese	274	-	N	P
7439-97-6	Mercury	0.07	U	N	CV
7440-02-0	Nickel	45.6	-		P
7440-09-7	Potassium	990	B		P
7782-49-2	Selenium	0.83	B	N	P
7440-22-4	Silver	1.4	U	N	P
7440-23-5	Sodium	1040	B		P
7440-28-0	Thallium	0.71	U	N	P
7440-62-2	Vanadium	76.4	-		P
7440-66-6	Zinc	15500	-		P
	Cyanide		-		NR

Color Before: GREEN

Clarity Before:

Texture: COARSE

Color After: BROWN

Clarity After: CLOUDY

Artifacts:

Comments:

SAMPLE NO.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

MC01B5

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): SOIL

Lab Sample ID: 00C01421

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 73.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2200			P
7440-36-0	Antimony	60.9			P
7440-38-2	Arsenic	328			P
7440-39-3	Barium	327	*		P
7440-41-7	Beryllium	0.20	B		P
7440-43-9	Cadmium	14.1			P
7440-70-2	Calcium	3280			P
7440-47-3	Chromium	152		N*	P
7440-48-4	Cobalt	406		N*	P
7440-50-8	Copper	1510	*		P
7439-89-6	Iron	321000			P
7439-92-1	Lead	1200			P
7439-95-4	Magnesium	1080	B		P
7439-96-5	Manganese	229		N	P
7439-97-6	Mercury	0.37		N	CV
7440-02-0	Nickel	28.5			P
7440-09-7	Potassium	203	U		P
7782-49-2	Selenium	2.4	B	N	P
7440-22-4	Silver	10.4		N	P
7440-23-5	Sodium	120	B		P
7440-28-0	Thallium	9.6		N	P
7440-62-2	Vanadium	13.1	B		P
7440-66-6	Zinc	5320			P
	Cyanide				NR

Color Before: BLACK

Clarity Before:

Texture: MEDIUM

Color After: BROWN

Clarity After: CLOUDY

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

MC01B6

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): SOIL

Lab Sample ID: 00C01422

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 79.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3530			P
7440-36-0	Antimony	33.3			P
7440-38-2	Arsenic	394			P
7440-39-3	Barium	186		*	P
7440-41-7	Beryllium	0.26	B		P
7440-43-9	Cadmium	10.6			P
7440-70-2	Calcium	9450			P
7440-47-3	Chromium	95.5		N*	P
7440-48-4	Cobalt	378		N*	P
7440-50-8	Copper	1050		*	P
7439-89-6	Iron	236000			P
7439-92-1	Lead	991			P
7439-95-4	Magnesium	1480			P
7439-96-5	Manganese	267		N	P
7439-97-6	Mercury	0.27		N	CV
7440-02-0	Nickel	24.8			P
7440-09-7	Potassium	313	B		P
7782-49-2	Selenium	1.8		N	P
7440-22-4	Silver	5.8		N	P
7440-23-5	Sodium	166	B		P
7440-28-0	Thallium	9.3		N	P
7440-62-2	Vanadium	12.8			P
7440-66-6	Zinc	3400			P
	Cyanide				NR

Color Before: BLACK

Clarity Before:

Texture: MEDIUM

Color After: BROWN

Clarity After: CLOUDY

Artifacts:

Comments:

SAMPLE NO.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

MC01B7

Lab Code: DATA C

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): SOIL

Lab Sample ID: 00C01423

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 47.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	90300	-		P
7440-36-0	Antimony	21.8	U		P
7440-38-2	Arsenic	10.0	-		P
7440-39-3	Barium	205	-	*	P
7440-41-7	Beryllium	0.63	B		P
7440-43-9	Cadmium	4.4	-		P
7440-70-2	Calcium	71400	-		P
7440-47-3	Chromium	49.3	-	N*	P
7440-48-4	Cobalt	11.3	B	N*	P
7440-50-8	Copper	262	-	*	P
7439-89-6	Iron	22100	-		P
7439-92-1	Lead	72.2	-		P
7439-95-4	Magnesium	11400	-		P
7439-96-5	Manganese	223	-	N	P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	54.6	-		P
7440-09-7	Potassium	411	B		P
7782-49-2	Selenium	1.2	U	N	P
7440-22-4	Silver	2.1	U	N	P
7440-23-5	Sodium	607	B		P
7440-28-0	Thallium	1.9	B	N	P
7440-62-2	Vanadium	71.4	-		P
7440-66-6	Zinc	6360	-		P
	Cyanide		-		NR

Color Before: WHITE

Clarity Before:

Texture: MEDIUM

Color After: BROWN

Clarity After: CLOUDY

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

MC01B9

Lab Code: DATAAC

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): SOIL

Lab Sample ID: 00C01424

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 61.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20500	-		P
7440-36-0	Antimony	17.0	U		P
7440-38-2	Arsenic	2.3	B		P
7440-39-3	Barium	75.1		*	P
7440-41-7	Beryllium	0.14	B		P
7440-43-9	Cadmium	36.8	-		P
7440-70-2	Calcium	68100	-		P
7440-47-3	Chromium	619		N*	P
7440-48-4	Cobalt	3.8	U	N*	P
7440-50-8	Copper	26.7	-	*	P
7439-89-6	Iron	2880	-		P
7439-92-1	Lead	21.7	-		P
7439-95-4	Magnesium	8350	-		P
7439-96-5	Manganese	217		N	P
7439-97-6	Mercury	0.08	U	N	CV
7440-02-0	Nickel	12.3	B		P
7440-09-7	Potassium	652	B		P
7782-49-2	Selenium	0.92	U	N	P
7440-22-4	Silver	1.6	U	N	P
7440-23-5	Sodium	279	B		P
7440-28-0	Thallium	0.91	B	N	P
7440-62-2	Vanadium	35.8	-		P
7440-66-6	Zinc	4560	-		P
	Cyanide				NR

Color Before: GREEN

Clarity Before:

Texture: COARSE

Color After: BROWN

Clarity After: CLOUDY

Artifacts:

Comments:

1  
INORGANIC ANALYSIS DATA SHEET

MC01AO

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

Lab Code: DATAAC

Case No.: 28339

SAS No.:

SDG No.: MC01AO

Matrix (soil/water): WATER

Lab Sample ID: 00C01406

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	342	-		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	48.8	B		PM
7440-41-7	Beryllium	0.44	U		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	23000	U		PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	9.4	B		PM
7439-89-6	Iron	463			PM
7439-92-1	Lead	2.4	B		PM
7439-95-4	Magnesium	9390			PM
7439-96-5	Manganese	66.7	-	E	PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	3390	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	23400	U		PM
7440-28-0	Thallium	2.7	U		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	8.4	U		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

## Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

MC01A1

Lab Code: DATA C

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01407

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No..	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	467	-		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	5.4	B		PM
7440-39-3	Barium	41.3	B		PM
7440-41-7	Beryllium	0.44	U		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	114000	-		PM
7440-47-3	Chromium	5.4	B		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	18.8	B		PM
7439-89-6	Iron	656	-		PM
7439-92-1	Lead	13.6	-		PM
7439-95-4	Magnesium	16300	-		PM
7439-96-5	Manganese	49.7	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	6340	-		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	22000	-		PM
7440-28-0	Thallium	3.3	B		PM
7440-62-2	Vanadium	4.3	B		PM
7440-66-6	Zinc	33.3	-		PM
	Cyanide		-		NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

## Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

MC01A2

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01408

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	532	-		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	51.8	B		PM
7440-41-7	Beryllium	1.6	B		PM
7440-43-9	Cadmium	4.5	B		PM
7440-70-2	Calcium	23200	-		PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	11.0	B		PM
7439-89-6	Iron	654	-		PM
7439-92-1	Lead	8.0	-		PM
7439-95-4	Magnesium	9700	-		PM
7439-96-5	Manganese	72.3	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	3770	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	24300	-		PM
7440-28-0	Thallium	2.7	U		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	27.9	-		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

MC01A3

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01409

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	399	-		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	46.6	B		PM
7440-41-7	Beryllium	2.5	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	23000			PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	7.8	B		PM
7439-89-6	Iron	524	-		PM
7439-92-1	Lead	9.8	-		PM
7439-95-4	Magnesium	9280	-		PM
7439-96-5	Manganese	71.0	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	3110	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	21300			PM
7440-28-0	Thallium	3.3	B		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	11.7	B		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

MC01A4

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01410

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	372	-		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	48.0	B		PM
7440-41-7	Beryllium	2.7	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	23100	-		PM
7440-47-3	Chromium	4.7	B		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	9.4	B		PM
7439-89-6	Iron	499	-		PM
7439-92-1	Lead	20.6	-		PM
7439-95-4	Magnesium	9380	-		PM
7439-96-5	Manganese	72.3	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	3140	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	22100	-		PM
7440-28-0	Thallium	3.2	B		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	16.1	B		PM
	Cyanide		-		NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

## Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

MC01A5

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01411

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	348	-		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	51.4	B		PM
7440-41-7	Beryllium	2.5	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	22900			PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	6.6	U		PM
7439-89-6	Iron	469	-		PM
7439-92-1	Lead	11.2	-		PM
7439-95-4	Magnesium	9370	-		PM
7439-96-5	Manganese	68.0	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	3290	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	24700			PM
7440-28-0	Thallium	3.5	B		PM
7440-62-2	Vanadium	4.3	B		PM
7440-66-6	Zinc	27.9	-		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

## Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

MC01A6

Lab Code: DATA

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01412

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68.6	U		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	45.5	B		PM
7440-41-7	Beryllium	2.6	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	23000			PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	9.4	B		PM
7439-89-6	Iron	22.9	B		PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	9390			PM
7439-96-5	Manganese	20.4	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	2830	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	24000			PM
7440-28-0	Thallium	4.7	B		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	8.4	U		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

## Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

MC01A7

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01413

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68.6	U		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.9	B		PM
7440-39-3	Barium	39.7	B		PM
7440-41-7	Beryllium	2.7	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	117000			PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	11.0	B		PM
7439-89-6	Iron	24.1	B		PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	16500			PM
7439-96-5	Manganese	42.5	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	7150			PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	22600			PM
7440-28-0	Thallium	2.7	B		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	9.8	B		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

## Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

MC01A8

Lab Code: DATAAC

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01414

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68.6	U		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	45.3	B		PM
7440-41-7	Beryllium	2.7	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	24000	U		PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	7.8	B		PM
7439-89-6	Iron	26.7	B		PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	9550	U		PM
7439-96-5	Manganese	25.9	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	3230	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	24900	U		PM
7440-28-0	Thallium	3.4	B		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	18.4	B		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

MC01A9

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01415

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68.6	U		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	42.4	B		PM
7440-41-7	Beryllium	2.5	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	23000			PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	9.4	B		PM
7439-89-6	Iron	22.9	B		PM
7439-92-1	Lead	2.3	B		PM
7439-95-4	Magnesium	9210			PM
7439-96-5	Manganese	33.6	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	2390	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	6.1	B		PM
7440-23-5	Sodium	21300			PM
7440-28-0	Thallium	3.1	B		PM
7440-62-2	Vanadium	4.4	B		PM
7440-66-6	Zinc	8.4	U		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

MC01B0

Lab Code: DATAAC

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01416

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68.6	U		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	43.3	B		PM
7440-41-7	Beryllium	2.6	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	23200	U		PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	6.6	U		PM
7439-89-6	Iron	41.9	B		PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	9270	-		PM
7439-96-5	Manganese	31.4	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	3320	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	22000	-		PM
7440-28-0	Thallium	5.2	B		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	11.9	B		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

MC01B1

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAC

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01417

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68.6	U		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	45.0	B		PM
7440-41-7	Beryllium	2.6	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	22500			PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	7.8	B		PM
7439-89-6	Iron	25.4	B		PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	9150			PM
7439-96-5	Manganese	20.8	E		PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	3430	B		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	24400			PM
7440-28-0	Thallium	4.1	B		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	14.1	B		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

## Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

MC01B2

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

Lab Code: DATAAC

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01418

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68.6	U		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	0.59	B		PM
7440-41-7	Beryllium	2.5	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	44.6	B		PM
7440-47-3	Chromium	4.7	U		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	6.6	U		PM
7439-89-6	Iron	6.3	U		PM
7439-92-1	Lead	2.1	B		PM
7439-95-4	Magnesium	40.9	U		PM
7439-96-5	Manganese	1.2	U	E	PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	832	U		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	110	B		PM
7440-28-0	Thallium	4.5	B		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	19.5	B		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

## Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

1  
INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

MC01B3

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Lab Sample ID: 00C01419

Level (low/med): LOW

Date Received: 07/27/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68.6	U		PM
7440-36-0	Antimony	57.9	U		PM
7440-38-2	Arsenic	3.0	U		PM
7440-39-3	Barium	0.47	B		PM
7440-41-7	Beryllium	2.3	B		PM
7440-43-9	Cadmium	4.2	U		PM
7440-70-2	Calcium	65.8	B		PM
7440-47-3	Chromium	10.1	B		PM
7440-48-4	Cobalt	12.8	U		PM
7440-50-8	Copper	11.0	B		PM
7439-89-6	Iron	27.9	B		PM
7439-92-1	Lead	1.6	U		PM
7439-95-4	Magnesium	40.9	U		PM
7439-96-5	Manganese	1.2	U	E	PM
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	33.1	U		PM
7440-09-7	Potassium	832	U		PM
7782-49-2	Selenium	3.1	U		PM
7440-22-4	Silver	5.4	U		PM
7440-23-5	Sodium	150	B		PM
7440-28-0	Thallium	2.7	U		PM
7440-62-2	Vanadium	3.9	U		PM
7440-66-6	Zinc	8.4	U		PM
	Cyanide				NR

Color Before: COLORLESS

Clarity Before: CLEAR

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

## Comments:

E - ICP SERIAL DILUTION IS OUTSIDE OF CONTROL LIMITS.

CONFIDENTIAL

## **APPENDIX D**

### **Support Documentation**



United States Environmental Protection Agency  
Contract Laboratory Program

Inorganic Traffic Report  
& Chain of Custody Record  
(For Inorganic CLP Analysis)

Case No.

28339

1. Project Code	2. Account Code		3. Region No.	Sampling Co.	5. Date Shipped	Carrier	7. Matrix (Enter in Column A)		8. Preservative (Enter in Column D)			
			3	TetraTech	7/26/00	FedEx						
Regional Information				Sampler (Name) (b) (4)	Airbill Number	813521282 591						
Non-Superfund Program				Ship To Address (b) (4)	6. Ship To:	DataChem Laboratories, Inc.						
Site Name 12th Street				4. Purpose*  Lead SF PRP ST FED	Early Action CLEM PA REM RI SI ESI	Long-Term Action FS RD RA O&M NPLD	960 West LeVoy Drive Salt Lake City, UT 84123 ATTN: Richard Wade					
City, State Wilmington DE		Site Spill ID										
CLP Sample Numbers (from labels)  MC01B0 MC01B1 MC01B2 MC01B3 MC01B4 MC01B5 MC01B6 MC01B7 MC01B9	A Matrix (from Box 7) Other:	B Conc. Low Med High	C Sample Type: Grab	D Preservative (from Box 8) Other:	E - RAS Analysis		F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier
					Diss. Metals	Total Metals	Cyanide	NO <sub>2</sub> /NO <sub>3</sub>	Fluoride	pH	Conduct	
Shipment for Case Complete? (Y/N)		Page 2 of 2	Sample(s) to be Used for Laboratory QC MC01B5			Additional Sampler Signatures			Chain of Custody Seal Number(s)			

Chain of Custody Record

Relinquished by: (Signature) (b) (4)	Date / Time 7/26/00 1230	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

B = Blank S = Spike  
D = Duplicate R = Rinsate  
PE = Perform Eval  
— = Not a QC Sample

A21-012-13 REV



United States Environmental Protection Agency  
Contract Laboratory Program

**Inorganic Traffic Report  
& Chain of Custody Record  
(For Inorganic CLP Analysis)**

Case No.

28339

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier	6. Matrix	7. Preservative (Enter in Column D)						
		3	TetraTech	07/26/00	FedEx	Other in Column A)							
Regional Information		Sampler (Name)		Airbill Number		Surface Water	1. HCl						
		(b) (4)		813521282591		Ground Water	2. HNO3						
Non-Superfund Program		(b) (4)		DataChem Laboratories		3. Leachate	3. NaOH						
Site Name		3. Purpose*		960 West LeVay Drive		4. Field QC	4. H <sub>2</sub> SO <sub>4</sub>						
12th St Landfill		Early Action Lead X SF PRP ST FED		Salt Lake City, UT 84123		5. Soil/Sediment	5. K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>						
City, State		Long-Term Action PA REM RI SI O&M NPLD		ATTN: Richard Wade		6. Oil (High only)	6. Ice only						
Wilmington DE		Site Spill ID				7. Waste (High only)	7. Other (specify in Column D)						
						8. Other (specify in Column A)	N. Not preserved						
CLP Sample Numbers (from labels)	A Matrix (from Box 6)	B Conc. Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7)	E - RAS Analysis			F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier
					Diss. Metals	Total Metals	Granide	NO <sub>2</sub> /NO <sub>3</sub>	Fluoride	pH	Conduct.	B = Blank S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. — = Not a QC Sample	
MCO1A0	1	Low	Grab	2	X							— — BH — —	
MCO1A1	1	Low	Grab	2	X							— — BH — —	
MCO1A2	1	Low	Grab	2	X							— — BH — —	
MCO1A3	1	Low	Grab	2	X							— — BH — —	
MCO1A4	1	Low	Grab	2	X							— — BH — —	
MCO1A5	1	Low	Grab	2	X							— — BH — —	
MCO1A6	1	Low	Grab	2	X							— — BH — —	
MCO1A7	1	Low	Grab	2	X							— — BH — —	
MCO1A8	1	Low	Grab	2	X							— — BH — —	
MCO1A9	1	Low	Grab	2	X							— — BH — —	
Shipment for Case Complete? (Y/N)	Page	Sample(s) to be Used for Laboratory QC				Additional Sampler Signatures				Chain of Custody Seal Number(s)			
Y	1 of 2	MCO1A0/MCO1A6											

**CHAIN OF CUSTODY RECORD**

Relinquished by: (Signature) (b) (4)	Date / Time 7/26/00 1230	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none

DISTRIBUTION:

Green - Region Copy  
White - Lab Copy for Return to Region

Pink - CLASS Copy  
Yellow - Lab Copy for Return to CLASS

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS

\*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

# VALIDATOR'S COPY



Tetra Tech EM Inc.

107 Chelsea Parkway • Boothwyn, PA 19061 • (610) 485-6410 • FAX (610) 485-8587

August 22, 2000

MEMO TO FILE  
CASE 28339  
12<sup>th</sup> Street Landfill

RSCC  
U.S. EPA Region III OAS/QA  
Environmental Science Center  
701 Mapes Road  
Ft. Meade, MD 20755

Dear Ms. Jeffery:

This memo is written to correct the sampling date for sample tag number 3-3009866 to 07/07/00.

Please note this changes.

Sincerely,

(b) (4)

(b) (4)

For Sampler (b) (4)

Attachment:

cc: EPA Michael Towle(3HS31)  
START 3 TDD Files

contains recycled fiber and is recyclable

ORIGINAL

Project Code	Station No.	Month/Day/year	Time	Designate:	
				Comp.	Grab
T1TP04	6/30/02	1200			
Station Location		Samplers (Signatures)			
T1TP04		<i>[Handwritten Signature]</i>			
Tag No.		Lab Sample No.			
3-3009865					
<b>PRESERVATIVE:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
<b>ANALYSES</b>					
BOD	Anions				
Solids	(TSS) (TDS) (SS)				
COD, TOC,	Nutrients				
Phenolics					
Mercury					
Metals		X			
Cyanide					
Oil and Grease					
Organics GC/MS					
Priority Pollutants					
Volatile Organics					
Pesticides					
Mutagenicity					
Bacteriology					
Remarks: <i>Case # 28339</i> <i>Sample # MCOB4</i>					

Project Code	Station No.	Month/Day/Year	Time	Designate:	
				Comp.	Grab
				Preservative: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
<b>ANALYSES</b>					
BOD Anions					
Solids (TSS) (TDS) (SS)					
COD, TOC, Nutrients					
Phenolics					
Mercury					
Metals X					
Cyanide					
Oil and Grease					
Organics GC/MS					
Priority Pollutants					
Volatile Organics					
Pesticides					
Mutagenicity					
Bacteriology					
Samplers (Signatures)					
Remarks: Case # 28339 Sample # MC01B6					
Tag No.		Lab Sample No.			
3-3002866					

# U.S. EPA Region III Sample Scheduling Request Form

RAS CASE No: CT593 <i>28339</i>	DAS No:	NSF No:	
Date: 17 July 2000	Data Validation Level: IM   <i>per Monica Jones</i>	EPA Lab Reply:	
Site Name: 12th Street Landfill	<i>EPA/QA</i>	Cost:	
Address: 12th Street at Brandywine River		City: Wilmington	
Latitude:	Longitude:	Anal +Val Data TAT:28 days	
Program: Superfund	CERCLIS No:	Activity: Removal	
Account No: 00T03N50102DD330QB00	Operable Unit:	Spill ID:	
Preparer: (b) (4)	RPM/PO:Michael Towle	Site Leader: (b) (4)	
Phone: (b) (4)	Phone: 215-814-3272	Phone: (b) (4)	
FAX: 610-485-8587	FAX: 215-814-3254	FAX: 610-485-8587	
E-mail: (b) (4) @ttemi.com	E-mail: towle.michael@epa.gov	E-mail: c(b) @ttemi.com	
EPA CO: Deborah Eble	Contract Type: START 3 Eastern Area	Prime: Tetra Tech EM Inc.	
		Sub:	
Lab Assignment Date:	Analytical TAT: 14 days	Ship Date From: 07/17/00	
Organic Lab:		Ship Date To: 07/24/00	
Inorganic Lab: <i>DATA C</i>		Carrier:	
SAMPLES	METHOD	PARAMETER	MATRIX
5	CLP SOW ILM04.1	TAL METALS	SOIL
6	CLP SOW ILM04.1	TAL METALS	SW
6	CLP SOW ILM04.1	DISSOLVED METALS	SW

NOTE: Data validation levels M3 & IM2 require justification. QC field samples must be included as part of total number of samples.

1. Special Instructions: OSC needs results faxed to him at the above number when they are received at RSCC.
2. Objectives / Project Plan ID / Permit ID: Verify if further cleanup is necessary.
3. Program / Project / Permit Reporting Limits As per method.
4. DQO (QC Requirements) As per method.

From Page No

28339

CASE/DCL ID: ~~28859~~ /G007006 PHYSICAL DESCRIPTION

JK 8/1/02

To Page No.

(b) (4)	Date 8/1/00	invented by NA	Date 8/1/00
(b) (4)			

## COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

SOW No.: ILM04.1

Sample No.	Lab Sample ID.
MC01A0	00C01406
MC01A0D	00C01406
MC01A0S	00C01406
MC01A1	00C01407
MC01A2	00C01408
MC01A3	00C01409
MC01A4	00C01410
MC01A5	00C01411
MC01A6	00C01412
MC01A6D	00C01412
MC01A6S	00C01412
MC01A7	00C01413
MC01A8	00C01414
MC01A9	00C01415
MC01B0	00C01416
MC01B1	00C01417
MC01B2	00C01418
MC01B3	00C01419
MC01B4	00C01420
MC01B5	00C01421

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes, were raw data generated before  
application of background corrections?

Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Heidi L. SickafuseName: Heidi L. SickafuseDate: 07 August 2000Title: Chemist

COVER PAGE - IN

JW 8/8k  
001 1000

## ENVIROFORMS/INORGANIC CLP

## COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

Lab Code: DATA C

Case No.: 28339

SAS No.:

SDG No.: MC01A0

SOW No.: ILM04.1

## Sample No.

MC01B5DMC01B5SMC01B6MC01B7MC01B9

## Lab Sample ID.

00C0142100C0142100C0142200C0142300C01424

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?

Yes/No YES

If yes, were raw data generated before  
application of background corrections?

Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

(b) (4)

Signature: [REDACTED]

Date:

07 August 2000Title: Chemist

COVER PAGE - IN

002



Case #: 28339  
SDG#: MC01A0  
DCL Set ID#: 00C-0164  
Aug 8, 2000

#### General Information

The samples in this SDG were analyzed by methodologies contained in ILM04.1 under contract 68-W0-0087. All concentration, analytical, and method qualifiers are defined in the SOW.

#### Holding Times

All samples were prepared and analyzed within method-required holding times.

#### Initial and Continuing Calibration

All initial and continuing calibration verification and blank analyses were performed within the designated frequency and recoveries of the verifications and concentrations of the blanks met method acceptance criteria.

#### Preparation Blanks

The absolute value of all analyte concentrations in the preparation blank were lower than the Contract Required Detection Limit.

#### ICP Interference Check Sample Analysis

Results for the interference check samples met method acceptance criteria.

#### Matrix Spike Analysis

All matrix spike recoveries were within the limits of 75-125% with the exception of the soil for Cr, Co, Mn, Hg, Se, Ag, and Tl. A post digestion spike was performed for each affected analyte except Hg. Since all LCS recoveries met method criteria, these poor spike recoveries may be attributed to matrix interference.

#### Matrix Duplicate Analysis

All matrix duplicate results met method criteria with the exception of the soil for Ba, Cr, Co, and Cu.

#### Laboratory Control Sample Analysis

Results for the analysis of the water LCS were within the limits of 80-120%. Results for the analysis of the solid LCS met method acceptance criteria.

#### ICP Serial Dilution

All ICP Serial Dilution results met method acceptance criteria with the exception of Mn for sample MC01A0L. The reported values for these analytes on Form 1 are therefore estimated because of the presence of interferences.

#### Miscellaneous Comments

Cooler temperature indicator bottles were present upon receipt. Cooler C00-1145 had a temperature of five degrees Celcius.

(b) (4)

(b) (4)

3  
BLANKS

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib.		Continuing Calibration Blank (ug/L)						Preparation Blank		M
	Blank (ug/L)	C	1	C	2	C	3	C	C	C	
Aluminum	61.7	U	61.7	U	61.7	U	61.7	U	68.556	U	PM
Antimony	52.1	U	52.1	U	52.1	U	52.1	U	57.889	U	PM
Arsenic	2.7	U	2.7	U	2.7	U	2.7	U	3.000	U	PM
Barium	0.8	B	0.8	B	0.4	U	0.4	U	1.648	B	PM
Beryllium	0.4	U	0.4	U	0.4	U	2.6	B	0.444	U	PM
Cadmium	3.8	U	3.8	U	3.8	U	3.8	U	4.222	U	PM
Calcium	9.6	U	9.6	U	9.6	U	9.6	U	-16.423	B	PM
Chromium	4.2	U	4.2	U	4.2	U	4.2	U	4.667	U	PM
Cobalt	11.5	U	11.5	U	11.5	U	12.2	B	12.778	U	PM
Copper	7.1	B	5.9	U	5.9	U	5.9	U	6.556	U	PM
Iron	-5.7	B	5.7	U	5.7	U	5.7	U	6.333	U	PM
Lead	1.4	U	1.4	U	1.4	U	1.4	B	1.556	U	PM
Magnesium	36.8	U	36.8	U	36.8	U	36.8	U	40.889	U	PM
Manganese	1.1	U	1.1	U	1.1	U	1.1	B	1.222	U	PM
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.100	U	CV
Nickel	29.8	U	29.8	U	29.8	U	29.8	U	33.111	U	PM
Potassium	749.0	U	749.0	U	749.0	U	749.0	U	832.222	U	PM
Selenium	2.8	U	2.8	U	2.8	U	2.8	U	3.111	U	PM
Silver	4.9	U	4.9	U	4.9	U	4.9	U	6.017	B	PM
Sodium	60.0	U	60.0	U	60.0	U	60.0	U	66.667	U	PM
Thallium	2.4	U	2.4	U	2.4	U	2.4	U	2.667	U	PM
Vanadium	3.5	U	3.5	U	3.5	U	3.5	U	3.889	U	PM
Zinc	7.6	U	7.6	U	7.6	U	7.6	U	8.444	U	PM
Cyanide											NR

3  
BLANKS

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)					Prepa- ration Blank	C	M
			1	C	2	C	3			
Aluminum			61.7	U	61.7	U				PM
Antimony			52.1	U	52.1	U				PM
Arsenic			2.7	U	2.7	U				PM
Barium			0.6	B	0.4	U				PM
Beryllium			2.9	B	1.6	B				PM
Cadmium			3.8	U	3.8	U				PM
Calcium			9.6	U	9.6	U				PM
Chromium			4.2	U	4.2	U				PM
Cobalt			11.5	U	11.5	U				PM
Copper			5.9	U	5.9	U				PM
Iron			5.7	U	5.7	U				PM
Lead			1.4	U	1.4	U				PM
Magnesium			36.8	U	36.8	U				PM
Manganese			1.1	B	1.1	U				PM
Mercury										NR
Nickel			29.8	U	29.8	U				PM
Potassium			749.0	U	749.0	U				PM
Selenium			2.8	U	2.8	U				PM
Silver			4.9	U	4.9	U				PM
Sodium			72.1	B	60.0	U				PM
Thallium			3.6	B	5.3	B				PM
Vanadium			3.5	U	-4.0	B				PM
Zinc			7.6	U	7.6	U				PM
Cyanide										NR

3  
BLANKS

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration				Prepa- ration Blank	C	M
			1 <i>6</i>	C	2	7			
Aluminum	61.7	U	61.7	U	61.7	U	61.7	U	12.340
Antimony	52.1	U	52.1	U	52.1	U	52.1	U	10.420
Arsenic	2.7	U	2.7	U	2.7	U	2.7	U	0.540
Barium	0.4	U	0.8	B	0.5	B	0.4	U	0.090
Beryllium	0.4	U	0.4	U	0.4	U	0.4	U	0.080
Cadmium	3.8	U	3.8	U	3.8	U	3.8	U	0.760
Calcium	9.6	U	9.6	U	9.6	U	9.6	U	30.146
Chromium	4.2	U	4.2	U	4.2	U	4.2	U	0.840
Cobalt	11.5	U	11.5	U	11.5	U	11.5	U	2.300
Copper	-6.4	B	5.9	U	5.9	U	5.9	U	1.180
Iron	5.7	U	5.7	U	5.7	U	7.9	B	7.439
Lead	1.4	U	1.4	U	1.4	U	1.4	U	0.280
Magnesium	36.8	U	36.8	U	36.8	U	36.8	U	7.360
Manganese	1.1	U	1.1	B	1.5	B	1.1	U	0.220
Mercury	0.1	U	0.1	U	0.1	U		U	0.050
Nickel	29.8	U	29.8	U	29.8	U	29.8	U	5.960
Potassium	749.0	U	749.0	U	749.0	U	749.0	U	149.800
Selenium	2.8	U	2.8	U	2.8	U	2.8	U	0.560
Silver	4.9	U	4.9	U	4.9	U	4.9	U	0.980
Sodium	60.0	U	60.0	U	60.0	U	60.0	U	16.799
Thallium	2.4	U	2.4	U	2.4	U	2.4	U	0.480
Vanadium	3.5	U	3.5	U	3.5	U	3.5	U	0.700
Zinc	7.6	U	7.6	U	7.6	U	7.6	U	1.772
Cyanide									NR

3  
BLANKS

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Prepa- ration Blank	C	M
			1	q	C	2	C	3			
Aluminum			61.7	U							P
Antimony			-55.0	B							P
Arsenic			2.7	U		2.7	U				P
Barium			0.5	B							P
Beryllium			0.4	U							P
Cadmium			3.8	U							P
Calcium			9.6	U							P
Chromium			4.2	U							P
Cobalt			-11.7	B							P
Copper			5.9	U							P
Iron			5.7	U							P
Lead			1.4	U		1.4	U				P
Magnesium			36.8	U							P
Manganese			1.1	U							P
Mercury											NR
Nickel			29.8	U							P
Potassium			749.0	U							P
Selenium			2.8	U		2.8	U				P
Silver			4.9	U							P
Sodium			60.0	U							P
Thallium			2.4	U		2.4	U				P
Vanadium			3.5	U							P
Zinc			7.6	U							P
Cyanide											NR

## ENVIROFORMS/INORGANIC CLP

2B  
CRDL STANDARD FOR AA AND ICP

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

AA CRDL Standard Source: EM SCIENCE

ICP CRDL Standard Source: EM SCIENCE

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP			
	True	Found	%R	Initial	Found	%R	Final
Aluminum				400.0	384.76	96.2	426.51
Antimony				120.0	140.16	116.8	121.82
Arsenic				20.0	22.73	113.6	21.07
Barium				400.0	404.00	101.0	423.28
Beryllium				10.0	10.04	100.4	10.42
Cadmium				10.0	8.83	88.3	11.24
Calcium					-8.72		0.24
Chromium				20.0	20.27	101.4	20.27
Cobalt				100.0	95.80	95.8	99.43
Copper				50.0	57.91	115.8	55.09
Iron				200.0	203.41	101.7	212.55
Lead				6.0	6.76	112.7	6.12
Magnesium					-2.76		10.41
Manganese				30.0	29.48	98.3	32.15
Mercury	0.2	0.22	110.0				
Nickel				80.0	70.63	88.3	75.34
Potassium					-25.95		94.2
Selenium				10.0	10.52	105.2	-74.61
Silver				20.0	25.55	127.8	114.0
Sodium					38.11		25.59
Thallium				20.0	22.91	114.6	49.52
Vanadium				100.0	101.20	101.2	24.41
Zinc				40.0	42.17	105.4	122.0
							103.57
							103.6
							40.21
							100.5

FORM II (PART 2) - IN

029

2B  
CRDL STANDARD FOR AA AND ICP

ORIGINAL

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

AA CRDL Standard Source: EM SCIENCE

ICP CRDL Standard Source: EM SCIENCE

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP			
	True	Found	%R	Initial	Final	True	Found
Aluminum						437.23	109.3
Antimony						121.66	101.4
Arsenic						22.05	110.2
Barium						412.26	103.1
Beryllium						12.20	122.0
Cadmium						12.04	120.4
Calcium						-3.27	
Chromium						23.07	115.4
Cobalt						94.57	94.6
Copper						57.90	115.8
Iron						210.27	105.1
Lead						5.93	98.8
Magnesium						4.56	
Manganese						30.62	102.1
Mercury							
Nickel						75.34	94.2
Potassium						87.58	
Selenium						11.44	114.4
Silver						23.34	116.7
Sodium						40.56	
Thallium						26.77	133.8
Vanadium						98.83	98.8
Zinc						44.08	110.2

## ENVIROFORMS/INORGANIC CLP

2B  
CRDL STANDARD FOR AA AND ICP

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

AA CRDL Standard Source: EM SCIENCE

ICP CRDL Standard Source: EM SCIENCE

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP			
	True	Found	%R	Initial	Final	Found	%R
Aluminum				400.0	388.63	97.2	425.73
Antimony				120.0	141.77	118.1	117.43
Arsenic				20.0	22.02	110.2	22.45
Barium				400.0	406.43	101.6	406.32
Beryllium				10.0	9.90	99.0	9.81
Cadmium				10.0	9.69	96.9	8.03
Calcium					0.81		-1.57
Chromium				20.0	22.20	111.0	22.19
Cobalt				100.0	98.89	98.9	92.59
Copper				50.0	54.88	109.8	53.46
Iron				200.0	207.06	103.5	258.60
Lead				6.0	6.24	104.0	6.30
Magnesium					5.15		15.85
Manganese				30.0	29.79	99.3	31.36
Mercury	0.2	0.21	105.0				
Nickel				80.0	69.33	86.7	91.23
Potassium					-94.15		114.0
Selenium				10.0	11.61	116.1	116.75
Silver				20.0	16.76	83.8	20.16
Sodium					23.44		100.8
Thallium				20.0	21.28	106.4	-17.26
Vanadium				100.0	95.21	95.2	20.88
Zinc				40.0	39.45	98.6	100.07
							104.4
							100.1
							105.8

## ENVIROFORMS/INORGANIC CLP

2B  
CRDL STANDARD FOR AA AND ICP

ORIGINAL

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

AA CRDL Standard Source: EM SCIENCE

ICP CRDL Standard Source: EM SCIENCE

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP			
	True	Found	%R	Initial	Final	Found	%R
Aluminum							
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium							
Chromium							
Cobalt							
Copper							
Iron							
Lead							
Magnesium							
Manganese							
Mercury							
Nickel							
Potassium							
Selenium							
Silver							
Sodium							
Thallium							
Vanadium							
Zinc							

FORM II (PART 2) - IN

032

5A  
SPIKE SAMPLE RECOVERY

SAMPLE NO.

MC01B5S

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): SOIL

% Solids for Sample: 73.9

Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum						-	NR
Antimony	75-125	177.1126	60.9079	135.32	85.9	-	P
Arsenic		332.3601	327.6424	10.83	43.6	-	P
Barium	75-125	793.8412	326.7517	541.27	86.3	-	P
Beryllium	75-125	13.2658	0.2035	B 13.53	96.5	-	P
Cadmium	75-125	25.8654	14.0637	13.53	87.2	-	P
Calcium						-	NR
Chromium	75-125	97.5385	152.3698	54.13	(-101.3)	N	P
Cobalt	75-125	421.3507	405.6582	135.32	11.6	N	P
Copper		1310.4581	1514.6592	67.66	-301.8	-	P
Iron						-	NR
Lead		1071.0419	1203.9327	5.41	-2456.4	-	P
Magnesium						-	NR
Manganese	75-125	266.2372	228.8086	135.32	27.7	N	P
Mercury	75-125	1.2312	0.3708	0.68	126.5	N	CV
Nickel	75-125	144.4519	28.5488	135.32	85.7	-	P
Potassium						-	NR
Selenium	75-125	1.7647	2.3995	B 2.71	(-23.4)	N	P
Silver	75-125	20.0930	10.4124	13.53	71.5	N	P
Sodium						-	NR
Thallium	75-125	19.4320	9.5943	13.53	72.7	N	P
Vanadium	75-125	136.9115	13.1115	B 135.32	91.5	-	P
Zinc		4358.3458	5322.7655	135.32	-712.7	-	P
Cyanide						-	NR

Comments:

## ENVIROFORMS/INORGANIC CLP

5B  
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

MC01B5A

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): SOIL

Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR)	Spike Added (SA)	%R	Q	M
Aluminum						NR	
Antimony						NR	
Arsenic						NR	
Barium						NR	
Beryllium						NR	
Cadmium						NR	
Calcium						NR	
Chromium		1424.65	563.01	1100.0	78.3	P	
Cobalt		4162.93	1498.91	3000.0	88.8	P	
Copper						NR	
Iron						NR	
Lead						NR	
Magnesium						NR	
Manganese		2411.80	845.45	1700.0	92.1	P	
Mercury						NR	
Nickel						NR	
Potassium						NR	
Selenium		12.82	4.43	B	83.9	P	
Silver		95.43	38.47	75.0	75.9	P	
Sodium						NR	
Thallium		125.99	35.45	70.0	129.3	P	
Vanadium						NR	
Zinc						NR	
Cyanide						NR	

Comments:

6  
DUPLICATES

SAMPLE NO.

MC01B5D

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): SOIL

Level (low/med): LOW

% Solids for Sample: 73.9

% Solids for Duplicate: 72.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		2202.2388	-	1870.6237	-	16.3	-	P
Antimony	16.2	60.9079	-	63.8109	-	4.7	-	P
Arsenic		327.6424	-	372.2391	-	12.7	-	P
Barium	54.1	326.7517	-	266.0915	-	20.5	*	P
Beryllium		0.2035	B	0.1389	B	37.7	-	P
Cadmium		14.0637	-	16.9507	-	18.6	-	P
Calcium	1353.2	3276.8723	-	3397.6842	-	3.6	-	P
Chromium		152.3698	-	36.5221	-	122.7	*	P
Cobalt		405.6582	-	327.3271	-	21.4	*	P
Copper		1514.6592	-	2976.1936	-	65.1	*	P
Iron		321216.0600	-	271910.0800	-	16.6	-	P
Lead		1203.9327	-	1123.9181	-	6.9	-	P
Magnesium		1084.9119	B	887.0383	B	20.1	-	P
Manganese		228.8086	-	231.6608	-	1.2	-	P
Mercury	0.1	0.3708	-	0.3712	-	0.1	-	CV
Nickel	10.8	28.5488	-	23.9580	-	17.5	-	P
Potassium		202.7064	U	202.7064	U	200.0	-	P
Selenium		2.3995	B	0.7578	U	2.5	-	P
Silver	2.7	10.4124	-	9.9863	-	4.2	-	P
Sodium		120.0725	B	103.5203	B	14.8	-	P
Thallium	2.7	9.5943	-	9.8342	-	2.5	-	P
Vanadium		13.1115	B	10.0146	B	26.8	-	P
Zinc		5322.7655	-	5828.2651	-	9.1	-	P
Cyanide								NR

9  
ICP SERIAL DILUTIONS

SAMPLE NO.,

MC01A0L

Lab Name: DATAChem LABORATORIES

Contract: 68-WO-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Matrix (soil/water): WATER

Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ- ence	Q	M
Aluminum	308.02	U	308.50	U	100.0	-	PM
Antimony	52.10	U	260.50	U		-	PM
Arsenic	2.70	U	13.50	U		-	PM
Barium	43.96	B	47.14	B	7.2	-	PM
Beryllium	0.40	U	2.00	U		-	PM
Cadmium	3.80	U	19.00	U		-	PM
Calcium	20662.15		21529.81	B	4.2	-	PM
Chromium	4.20	U	21.00	U		-	PM
Cobalt	11.50	U	57.50	U		-	PM
Copper	8.46	B	29.50	U	100.0	-	PM
Iron	417.10		422.82	B	1.4	-	PM
Lead	2.17	B	7.00	U	100.0	-	PM
Magnesium	8450.52	-	8845.27	B	4.7	-	PM
Manganese	60.06	-	68.85	B	14.6	E	PM
Mercury							
Nickel	29.80	U	149.00	U		-	PM
Potassium	3052.42	B	3745.00	U	100.0	-	PM
Selenium	2.80	U	14.00	U		-	PM
Silver	4.90	U	27.03	B		-	PM
Sodium	21075.52	-	22157.73	B	5.1	-	PM
Thallium	2.40	U	14.04	B		-	PM
Vanadium	3.50	U	17.50	U		-	PM
Zinc	7.60	U	38.00	U		-	PM

14  
Analysis Run Log

Lab Name: DATACHEM LABORATORIES  
 Lab Code: DATAC Case No.: 28339  
 Instrument ID Number: ICP-E  
 Start Date: 08/03/00

Contract: 68-W0-0087  
 SAS No.: SDG No.: MC01A0  
 Method: PM  
 End Date: 08/03/00

Sample No.	D/F	Time	%R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	F U	P B	M G	M N	H G	N I	K X	S E	A G	N A	T L	V L	Z N	C N
S0	1.00	1719		X	X	-	X	X	X	X	X	X	X	-	X	X	-	X	-	-	X	X	X	X	-	
S	1.00	1727		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-	
S50000	1.00	1728		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
ICV	1.00	1731		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
ICB	1.00	1733		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
CCV1	1.00	1735		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
CCB1	1.00	1737		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
CRII	1.00	1739		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
ICSAI3	1.00	1742		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
ICSABI3	1.00	1745		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
CCV2	1.00	1747		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
CCB2	1.00	1749		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
PBW	1.00	1751		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
LCSW	1.00	1754		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A0	1.00	1757		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A0S	1.00	1759		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A0D	1.00	1801		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A0L	5.00	1803		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A1	1.00	1806		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A2	1.00	1809		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A3	1.00	1812		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A4	1.00	1815		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
CCV3	1.00	1817		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
CCB3	1.00	1819		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A5	1.00	1821		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01B2	1.00	1823		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A6	1.00	1825		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A6S	1.00	1827		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A6D	1.00	1830		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A7	1.00	1834		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
MC01A8	1.00	1836		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	
CRIF 6	1.00	1839		X	X	-	X	X	X	X	X	X	X	-	-	X	X	-	X	-	X	X	X	X	-	



## Analysis Run Log

Lab Name: DATAChem LABORATORIES  
 Lab Code: DATAc Case No.: 28339  
 Instrument ID Number: ICP-E  
 Start Date: 08/04/00

Contract: 68-W0-0087  
 SAS No.: SDG No.: MC01A0  
 Method: P  
 End Date: 08/04/00

Sample No.	D/F	Time	%R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	F U	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	V L	Z N	C N
S0	1.00	1713		X	X		X	X	X	X	X	X	X	-	X	X	-	X	-	-	X	X	X	X	-	
S	1.00	1715		-	X	X		X	X	X	X	X	X	-	-	X	X	-	-	-	-	X	X	X	X	-
S50000	1.00	1717		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
ICV2	1.00	1719		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
ICB2	1.00	1721		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
CCV6	1.00	1723		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
CCB6	1.00	1725		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
CRI12	1.00	1727		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
ICSAI4	1.00	1729		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
ICSABI4	1.00	1732		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
CCV7	1.00	1734		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
CCB7	1.00	1736		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
PBS	1.00	1738		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
LCSS	1.00	1741		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B4	1.00	1743		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B5	1.00	1745		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B5S	1.00	1747		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B5D	1.00	1749		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B5L	5.00	1753		X	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B5	5.00	1756		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MC01B5L	25.00	1758		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MC01B5S	5.00	1800		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCV8	1.00	1802		-	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
CCB8	1.00	1804		-	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B5D	5.00	1806		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MC01B6	1.00	1808		-	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B6	5.00	1810		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MC01B7	1.00	1812		-	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B9	1.00	1815		-	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
MC01B5A	1.00	1829		-	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
CRIF3	1.00	1832		-	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-
ICSAF7	1.00	1834		-	X	X		-	X	X	X	X	X	X	-	-	X	X	-	-	-	X	X	X	X	-



14  
Analysis Run Log

Lab Name: DATAChem LABORATORIES  
 Lab Code: DATAC Case No.: 28339  
 Instrument ID Number: ICP-T  
 Start Date: 08/02/00

Contract: 68-W0-0087  
 SAS No.: SDG No.: MC01A0  
 Method: PM  
 End Date: 08/02/00

Sample No.	D/F	Time	%R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	V L	Z N
S0	1.00	1641		-	-	X	-	-	-	-	-	-	-	-	X	-	-	-	-	-	X	-	-	X	-	-
S1000	1.00	1644		-	-	X	X	-	-	-	-	-	-	-	X	X	-	-	-	-	X	X	-	X	X	-
S	1.00	1648		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S10000	1.00	1651		-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-
ICV	1.00	1706		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
ICB	1.00	1710		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	-
CCV1	1.00	1713		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	-
CCB1	1.00	1717		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	-
CRII	1.00	1720		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	-
ICSAI	1.00	1724		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	-
ICSABI	1.00	1727		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	-
CCV2	1.00	1731		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
CCB2	1.00	1734		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
PBW	1.00	1738		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	-
LCSW	1.00	1742		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A0	1.00	1745		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A0S	1.00	1749		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A0D	1.00	1752		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A1	1.00	1756		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A2	1.00	1759		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A3	1.00	1803		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A4	1.00	1806		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A5	1.00	1810		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
CCV3	1.00	1813		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
CCB3	1.00	1817		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01B2	1.00	1821		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A6	1.00	1824		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A6S	1.00	1828		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A6D	1.00	1831		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A7	1.00	1835		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A8	1.00	1838		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-
MC01A9	1.00	1842		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	-



14  
Analysis Run Log

Lab Name: DATACHEM LABORATORIES  
 Lab Code: DATAc Case No.: 28339  
 Instrument ID Number: ICP-T  
 Start Date: 08/02/00

Contract: 68-W0-0087  
 SAS No.: SDG No.: MC01A0  
 Method: P  
 End Date: 08/02/00

Sample No.	D/F	Time	%R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	F U	P E	M B	M G	H N	N G	I	K	S E	A G	N A	T L	V Z	Z N
S0	1.00	1049		-	-	X	-	-	-	-	-	-	-	X	-	-	-	-	-	-	X	-	-	X	-	-
S1000	1.00	1052		-	-	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	X	X	-	X	X	-
S	1.00	1056		-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S10000	1.00	1059		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ICV2	1.00	1102		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	X	-	-	X	-
ICB2	1.00	1105		-	-	X	X	-	-	-	-	-	-	-	-	X	X	-	-	-	-	X	X	-	X	-
CCV6	1.00	1109		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-	X	-
CCB6	1.00	1112		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	X	X
CRII2 \	1.00	1116		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
ICSAI2	1.00	1120		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
ICSABI2	1.00	1123		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
CCV7	1.00	1127		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
CCB7	1.00	1130		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	X
PBS	1.00	1134		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	X
LCSS	1.00	1137		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
MC01B4	1.00	1141		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
MC01B5	1.00	1144		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
MC01B5S	1.00	1148		-	-	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	X
MC01B5D	1.00	1151		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
MC01B6	1.00	1155		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
MC01B7	1.00	1159		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
MC71B9	1.00	1202		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
MC01B5L	5.00	1206		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
CCV8	1.00	1209		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
CCB8	1.00	1213		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
CRIF3 \	1.00	1216		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
ICSAF3	1.00	1220		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
ICSABF3	1.00	1223		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
CCV9	1.00	1227		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
CCB9	1.00	1230		-	-	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	X	X
MC01B5	2.00	1247		-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-
MC01B4	2.00	1252		-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-



## Analysis Run Log

Lab Name: DATACHEM LABORATORIES  
 Lab Code: DATAAC Case No.: 28339  
 Instrument ID Number: AAS-CVG  
 Start Date: 08/03/00

Contract: 68-W0-0087  
 SAS No.: SDG No.: MC01A0  
 Method: CV  
 End Date: 08/03/00

Sample No.	D/F	Time	%R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	F U	P E	M B	M G	M N	H G	N I	K G	S E	A G	N A	T L	V Z	Z N
S0	1.00	0933		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
S0.2	1.00	0934		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
S0.5	1.00	0936		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
S1.0	1.00	0937		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
S5.0	1.00	0939		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
S10.0	1.00	0940		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
ICV	1.00	0942		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
ICB	1.00	0943		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCV1	1.00	0945		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCB1	1.00	0946		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CRA	1.00	0948		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
PBW	1.00	0949		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A0	1.00	0951		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A0D	1.00	0952		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A0S	1.00	0953		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A1	1.00	0955		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A2	1.00	0956		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A3	1.00	0958		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A4	1.00	0959		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A5	1.00	1001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCV2	1.00	1002		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCB2	1.00	1004		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01B2	1.00	1005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A6	1.00	1007		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A6D	1.00	1008		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A6S	1.00	1010		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A7	1.00	1011		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A8	1.00	1013		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01A9	1.00	1014		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01B0	1.00	1016		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01B1	1.00	1017		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
MC01B3	1.00	1018		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-





## ENVIROFORMS/INORGANIC CLP

13

## Preparation Log

C:\DATA\CLP\

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAC

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Method: PM

Sample No.	Preparation Date	Weight (gram)	Volume (ml)
LCSW	08/01/00		50
MC01A0	08/01/00		50
MC01A0D	08/01/00		50
MC01A0S	08/01/00		50
MC01A1	08/01/00		50
MC01A2	08/01/00		50
MC01A3	08/01/00		50
MC01A4	08/01/00		50
MC01A5	08/01/00		50
MC01A6	08/01/00		50
MC01A6D	08/01/00		50
MC01A6S	08/01/00		50
MC01A7	08/01/00		50
MC01A8	08/01/00		50
MC01A9	08/01/00		50
MC01B0	08/01/00		50
MC01B1	08/01/00		50
MC01B2	08/01/00		50
MC01B3	08/01/00		50
PBW	08/01/00		50

FORM XIII - IN

067

## ENVIROFORMS/INORGANIC CLP

13  
Preparation Log

Lab Name: DATAChem LABORATORIES Contract: 68-W0-0087

Lab Code: DATAc Case No.: 28339 SAS No.: SDG No.: MC01A0

Method: P

Sample No.	Preparation Date	Weight (gram)	Volume (ml)
LCSS	07/31/00	1.00	200
MC01B4	07/31/00	1.00	200
MC01B5	07/31/00	1.00	200
MC01B5D	07/31/00	1.00	200
MC01B5S	07/31/00	1.00	200
MC01B6	07/31/00	1.00	200
MC01B7	07/31/00	1.00	200
MC01B9	07/31/00	1.00	200
PBS	07/31/00	1.00	200

FORM XIII - IN

068

## ENVIROFORMS/INORGANIC CLP

OPTIONAL

13  
Preparation Log

Lab Name: DATACHEM LABORATORIES Contract: 68-WO-0087

Lab Code: DATAc Case No.: 28339 SAS No.: SDG No.: MC01A0

Method: CV

Sample No.	Preparation Date	Weight (gram)	Volume (ml)
ICV	08/01/00		100
MC01A0	08/01/00		100
MC01A0D	08/01/00		100
MC01A0S	08/01/00		100
MC01A1	08/01/00		100
MC01A2	08/01/00		100
MC01A3	08/01/00		100
MC01A4	08/01/00		100
MC01A5	08/01/00		100
MC01A6	08/01/00		100
MC01A6D	08/01/00		100
MC01A6S	08/01/00		100
MC01A7	08/01/00		100
MC01A8	08/01/00		100
MC01A9	08/01/00		100
MC01B0	08/01/00		100
MC01B1	08/01/00		100
MC01B2	08/01/00		100
MC01B3	08/01/00		100
PBW	08/01/00		100

FORM XIII - IN

## ENVIROFORMS/INORGANIC CLP

13

## Preparation Log

Lab Name: DATACHEM LABORATORIES

Contract: 68-W0-0087

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

Method: CV

Sample No.	Preparation Date	Weight (gram)	Volume (ml)
LCSS	08/01/00	0.20	100
MC01B4	08/01/00	0.20	100
MC01B5	08/01/00	0.20	100
MC01B5D	08/01/00	0.20	100
MC01B5S	08/01/00	0.20	100
MC01B6	08/01/00	0.20	100
MC01B7	08/01/00	0.20	100
MC01B9	08/01/00	0.20	100
PBS	08/01/00	0.20	100

FORM XIII - IN

066

10  
INSTRUMENT DETECTION LIMITS (QUARTERLY)

C510, AIA

Lab Name: DATACHEM LABORATORIES

Contract: 68-WO-0087

Lab Code: DATA~~C~~

Case No.: 28339

SAS No.:

SDG No.: MC01A0

ICP ID Number:

ICP-E

Date: 07/15/00

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	61.7	PM
Antimony	206.84		60.0	52.1	PM
Arsenic			10.0		
Barium	493.41		200.0	0.4	PM
Beryllium	313.04		5.0	0.4	PM
Cadmium	228.80		5.0	3.8	PM
Calcium	315.86		5000.0	9.6	PM
Chromium	267.72		10.0	4.2	PM
Cobalt	228.62		50.0	11.5	PM
Copper	324.75		25.0	5.9	PM
Iron	259.94		100.0	5.7	PM
Lead			3.0		
Magnesium	279.08		5000.0	36.8	PM
Manganese	257.61		15.0	1.1	PM
Mercury			0.2		
Nickel	231.60		40.0	29.8	PM
Potassium	766.49		5000.0	749.0	PM
Selenium			5.0		
Silver	328.07		10.0	4.9	PM
Sodium	589.00		5000.0	60.0	PM
Thallium			10.0		
Vanadium	292.40		50.0	3.5	PM
Zinc	213.86		20.0	7.6	PM
Cyanide			10.0		

Comments:

10  
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

ICP ID Number:

ICP-T

Date: 07/15/00

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0		
Antimony			60.0		
Arsenic	189.04		10.0	2.7	PM
Barium			200.0		
Beryllium			5.0		
Cadmium	226.50		5.0	0.3	PM
Calcium	317.93		5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron	271.44		100.0		
Lead	220.35		3.0	1.4	PM
Magnesium	279.08		5000.0		
Manganese	257.61		15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.02		5.0	2.8	PM
Silver			10.0		
Sodium			5000.0		
Thallium	190.80		10.0	2.4	PM
Vanadium	292.40		50.0		
Zinc			20.0		
Cyanide			10.0		

Comments:

10  
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: DATAChem LABORATORIES

Contract: 68-W0-0087

Lab Code: DATAc

Case No.: 28339

SAS No.:

SDG No.: MC01A0

ICP ID Number:

Date: 07/15/00

Flame AA ID Number: AAS-CVG

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			3.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.1	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		
Cyanide			10.0		

Comments: